

## CLAIMS

We claim

1. A method of screening a helminthic parasite preparation that alters a regulatory T cell activity, said method comprising the steps of:

5 (a) obtaining a helminthic parasite preparation;

(b) contacting said helminthic parasite preparation with a target; and

(c) determining the level of an internal marker for regulatory T cell activity in said target after said contacting, wherein a change in said level of said internal marker after said contacting is indicative of said helminthic parasite preparation altering a regulatory T cell activity.

10 2. The method of claim 1, wherein said internal marker is a transcription factor.

3. The method of claim 2, wherein said transcription factor is Scurfin, Smad7, Gata3, or Tbet (Tbx21).

4. The method of claim 2, wherein said level of said transcription factor is measured at its protein or mRNA level.

15 5. A method of screening a helminthic parasite preparation that alters a regulatory T cell activity, said method comprising the steps of:

(a) obtaining a helminthic parasite preparation;

(b) contacting said helminthic parasite preparation with a target; and

20 (c) determining the level of a cell surface marker for regulatory T cell in said target after said contacting, wherein a change in said level of said cell surface marker after said contacting is indicative of said helminthic parasite preparation altering a regulatory T cell activity.

6. The method of claim 5, wherein said cell surface marker is selected from the group consisting of: CD4, CD45RB<sup>lo</sup>, CD45Rc, Cytplytic T lymphocyte associated antigen 4 (CTLA-4), O<sub>x</sub>40, 4-1BB, CD25, CD103, CD62L,  $\alpha\beta$  integrin, latency-associated peptide (LAP) or

glucocorticoid induced TNF receptor family related protein (GITR), chemokine receptor CCR5, TI-ST2.

7. The method of claim 6, wherein said level of said surface marker is measured at it protein or mRNA level.

5 8. A method for treating an animal with a Th1 or Th2 related disease by administering a helminthic parasite preparation that alters a regulatory T cell activity to said animal.

9. A method for monitoring the treatment efficacy of a helminthic parasite preparation for an autoimmune or allergy disease in an animal comprising:

(a) administering a composition comprising a helminthic parasite preparation or a  
10 fraction thereof to said animal; and

(b) determining the level of a regulatory T cell activity in said animal after said administering, wherein an increase in said level of said regulatory T cell activity after said administering is indicative of the treatment efficacy of said helminthic parasite preparation.

10. The method of claim 9, wherein said regulatory T cell activity is measured by  
15 determining the level of a regulatory T cell marker.

11. The method of claim 10, wherein said regulatory T cell marker is an internal marker.

12. The method of claim 11, wherein said internal marker is Scurfin, Smad7, Gata3, or Tbet (Tbx21) .

13. The method of claim 10, wherein said regulatory T marker is a cell surface marker.

20 14. The method of claim 13, wherein said cell surface marker is selected from the group consisting of: CD4, CD45RB<sup>lo</sup>, CD45Rc, Cytplytic T lymphocyte associated antigen 4 (CTLA-4), Ox40, 4-1BB, CD25, CD103, CD62L,  $\alpha_E\beta$  integrin, latency-associated peptide (LAP) or glucocorticoid induced TNF receptor family related protein (GITR), , chemokine receptor CCR5, TI-ST2.

25 15. The method of claim 10, wherein said regulatory T cell marker is a secreted marker.

16. The method of claim 15, wherein said secreted marker is IL4, IL13, IL-5, IL-10 or TGF $\beta$ , PgE2.